

## ABSTRACT

An electron sensing device for receiving electrons from an output surface of an electron gain device has a silicon die including an active surface area for positioning below the output surface of an electron gain device. The silicon die  
s also includes a silicon step formed below and surrounding the active surface area, and a first array of bond pads formed on the silicon step for providing output signals from the silicon die. When the electron sensing device is positioned below the electron gain device, a tight vertical clearance is formed between the output surface of the electron gain device and the active surface area of the electron sensing device.